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THE VALUE OF THE PROJECT-PROBLEM METHOD IN ELEMENTARY EDUCATION

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The value of the project-problem method apparently is understood by few teachers. If understood, the statement "We know better than we do" is applicable. It is desirable, not only that teachers shall recognize the value of project problems, but that they shall utilize the problems as an invaluable aspect of educational training. The teacher of content subjects, such as geography, history, and nature-study, has a golden opportunity, through project problems, to vitalize her work.

A general aim of education should be to develop an ability in the pupils to interpret the factors—political, economical, social, and physical—involved in problems of timely moment. The most effective way of developing this ability is to give training in the interpretation of worth-while problems. The relative values of factors are rarely the same in two or more problems, but through actual experience in dealing with various problems the pupils learn the factors that are fundamental in the solution of types of problems and, through practice, develop an ability to weigh their relative significance in new problems. It is not to be expected that all pupils will show marked ability in working out every problem independently. It is to be expected, however, that most of them, as a result of problem studies, will be able to follow intelligently and discriminatingly the statements of leaders, emanating from the pulpit, platform, and press.

Several summarized illustrations of the project-problem method, as it is now being worked out in the St. Louis schools, are as follows:

ILLUSTRATION I

1. *Preparatory step.*—Peru, Bolivia, and Chile have had a vigorous war over the desert region of northern Chile.

2. *Problem raised.*—Is this desert region worth fighting for?

3. *Materials secured and interpreted.*—A consideration of the resources and their significance in supporting people and providing for the financial requirements of the government.

4. *Problem solved.*—The desert region is worth fighting for, primarily because of its nitrate deposits.

ILLUSTRATION II

1. *Preparatory step.*—From a study of maps showing the distribution of agricultural products and population in Argentina, it is found that over three-fourths of the people live, and over three-fourths of the agricultural products are produced, in the pampas region.

2. *Problem raised.*—Account for the dominating importance, in Argentina, of the pampas.

3. *Materials secured and interpreted.*—A consideration of factors in the pampas, favorable for agricultural production, thus accounting for its absolute importance, is made; and a study of limitations imposed, in the Gran Chaco region, the Andean foothills, and the Patagonian Plateau, is made to account for the relative importance of the pampas.

4. *Problem solved.*—The pampas region is of dominant importance because of its favorable location, area, topography, soils, climate; because of the relatively unfavorable physical factors elsewhere.

ILLUSTRATION III

1. *Preparatory step.*—A $2,000,000 fire in Norfolk, probably incendiary in character, and attributed to pro-German sympathizers, destroyed several of the main business blocks.

2. *Problem raised.*—Why should enemies of the United States be interested in damaging or destroying this city?

3. *Material secured and interpreted.*—The location of the city, with reference to the sea, with reference to the hinterland and its resources, transportation facilities, and important industries are studied.

4. *Problem solved.*—Because of the importance of Norfolk as a producer of essential goods, as a distributing center for both domestic and foreign trade, and as a naval center, the destruction of Norfolk would impair the strength of the United States.

While recognizing the educational value of project problems, the teacher also should hold in mind that they are not a "cure-all" for all the shortcomings of classes. Some pupils will be able to work out problems more effectively than others. Some pupils may make little progress in solving problems. It is so in the competitive life of adults. "To him that hath shall be given." Aided by the training they secure in the schoolroom, a few pupils may continue to grow in their ability to recognize and analyze important problems, eventually becoming leaders of thought and action among men. Many pupils, constituting the largest proportion of the class, may develop an ability to interpret the material presented by leaders. A few pupils, a small proportion with limited capacities, unable to think clearly concerning problems, will need always to depend on the other two classes both for leadership and for interpretation. This difference in the amount of ability developed with respect to problems is not a weakness of the problem method, but is based on the varying capacities of individuals.

The project-problem method should not be confused with the use of problems to energize a class exercise. Irrespective of the method used—topical, question and answer, or project problem—minor problems requiring solution may arise. The project problem constitutes a unit of study that may require one or several recitations for its proper consideration.

This method has a fourfold aspect: (1) preparatory step, (2) problem raised, (3) materials secured and interpreted, (4) problem solved or material summarized.

1. *Preparatory step.*—An exercise is given or material is discussed, out of which exercise or discussion a problem or problems may arise. In many instances the solving of one problem may give rise to another problem. The preparatory material may be historical, statistical, or some happening in current events. The character of the preparatory material used is important, since the problem and the initial interest of the class in the problem largely depend on it.

2. *Problem raised.*—From the preparatory material a problem is raised. Spontaneous self-activity of pupils should be sought. A problem, ideally, is secured when the pupils raise it. It may be necessary, however, for the teacher to assist the pupils and occasionally even to raise the problem for the class. The significant thing is not that some pupil verbally shall state a problem, but that the class shall have a felt need, a problem—irrespective of how the need was created—which it wants to satisfy. Some care should be exercised by the teacher and the class in the final statement of the problem, as succeeding work hinges on the definite expression of a problem worth while.

3. *Materials secured and interpreted.*—When the class has a problem that it needs, or preferably wants, to solve, various sources of information, as textbooks, supplementary readers, pictures, maps, museum material, newspapers, magazines, and people, should be consulted for appropriate material. It is not enough that appropriate material shall be selected. It also should be interpreted so as plainly to show its bearing on the solution of the problem.

It is desirable that a teacher always shall have available a nucleus of material pertinent to the work for her grade. Different material bearing on the same general topics should be available, so that pupils may make actual contributions to other members in the class. The pupils will study with increased interest if they feel that they may secure material that no one else will, if they believe that they, with others, are working constructively on a problem, the solution of which has not been given them on the "ready to wear" plan. The pupils and teacher actually teach each other, and no one simply is "hearing" lessons that have been assigned from a textbook.

The contributions bearing on the problem may be listed on the board. It is well that the teacher shall have a fresh knowledge and a definite organization of material pertinent to the solution. She should not attempt to force her ideas on the class, however, unless it is absolutely necessary. It is far better to accept the pertinent points made by the pupils in the order in which they are made, thus encouraging a ready flow of thought. The pupils should not be thinking, What does the teacher want us to say? but, What does the solution of the problem demand?

4. *Problem solved or material summarized.*—If the problem has been solved the solution should be stated by the class as accurately, as definitely, and as concisely as possible. The final statement should represent the team work of the class. It is not to be expected that a definite answer can always be secured, or that the individuals of the class will always agree on the answer. In the actual problems of life adults often analyze and weigh the factors concerned, suspending judgment. With respect to many problems in life people have widely divergent views. Aside possibly from moral and patriotic considerations it is the purpose of the teacher, not to

impress her ideas on the pupils, but, working with them, to get them to come to their own conclusions, after all the evidence is in.

The project-problem method has the following advantages:

1. Subject-matter is considered in the way that people in general consider it, not merely as interesting facts, but as having some bearing on life-activities.
2. A definite task in the form of a problem challenges the ability of the pupils, which tends to arouse a determination to win.
3. All memory work is memory work in relation to the problem, which affords a motive for organizing and memorizing facts.
4. The consideration, selection, and elimination of material, with respect to the problem, requires rational thinking.
5. Because of the team work involved in working out problems, training in co-operative social service is given.
6. Because of the appeal that can be made to the social, intellectual, and emotional aspects of child life, through the solution of worth-while problems, greater interest and enthusiasm may be aroused.
7. The pupils acquire skill in the use of the mother-tongue as a tool for the expression, as well as for the transmission, of thought.
8. The project-problem method involves the use of all the faculties, thus tending to a balanced development.
9. The project-problem method suggests a criterion that will help in determining the relative capacity of children.

Vocational directors should find project problems of material assistance in directing pupils into the industrial lines best fitted to their capacities, abilities, and inclinations.

It is not maintained that the project-problem method should be used exclusively in the teaching of content subjects. It is the testimony of many teachers, however, that through the organization and consideration of material in the form of project problems, not only are the pupils more enthusiastic and interested in their work, but the material that carries over as a general residuum for life's equipment is much greater, and the ability to meet new situations is developed more effectively. No teacher should be content until she thoroughly has mastered the project-problem method, understanding not only its possibilities but also its limitations.